CLAIMS:

1. An integrated circuit (10) provided with a substrate (11) and with a memory having a first programmable memory element (30), which memory element (30)
comprises an electrically conducting organic material,
has a non-programmed and a programmed state, and
comprises a first electrode (26) and a second electrode (28),
characterized in that
the first (26) and the second electrode (28) are interconnected in the non-programmed state by an electrically conducting bridge (27) which comprises the organic material,
said bridge (27) is at least partly interrupted in the programmed state, and
the first memory element (30) is programmable through heating of the organic material.

2. An integrated circuit (10) as claimed in claim 1, characterized in that a first transistor (20) is present which during programming provides a voltage across the first memory element (30) so as to heat the first memory element (30).

3. An integrated circuit (10) as claimed in claim 1, characterized in that an electrical conductor track (23) is present, perpendicular projections of said conductor track (23) and of the bridge (27) on the substrate (11) overlapping each other.

4. An integrated circuit (10) as claimed in claim 1, characterized in that the substrate (11) is a laminated product of a porous layer (1) and a covering layer (2).

5. An integrated circuit (10) as claimed in claim 1, characterized in that the first memory element (30) has a spiraling (91) or meandering (92) shape.

6. An integrated circuit (10) as claimed in claim 1 or 2, characterized in that the first memory element (30) is also programmable by optical means.

7. An integrated circuit (10) as claimed in claim 2, characterized in that a first patterned electrically conducting layer (6) is present on a substrate (11), in which layer the bridge (27) of the memory element (30) and a first transistor electrode (21) of the first transistor (20) are present.

8. An integrated circuit (10) as claimed in claim 7, characterized in that the bridge (27) is a conductor track having a smaller width (13) than the first transistor electrode (21) of the first transistor (20) and than the first electrode (26) of the first memory element (30).

9. An integrated circuit (10) as claimed in claim 7, characterized in that the first patterned layer (6) comprises an organic material chosen from the group of polyaniline and poly(3,4-ethylenedioxythiophene).

10. A transponder (50) comprising an integrated circuit (10), and an antenna (40), and an electrically conducting connection between the antenna (40) characterized in that the integrated circuit (10) as claimed in claim 1 is present.

11. A security paper comprising an integrated circuit, characterized in that the integrated circuit as claimed in claim 1 is present.

12. A method of programming a memory in an integrated circuit, which memory comprises a first programmable memory element (30), which memory element (30) comprises an electrically conducting organic material, has a non-programmed and a programmed state, and comprises a first electrode (26) and a second electrode (28), characterized in that

the first (26) and the second electrode (28) are interconnected in the non-programmed state by means of an electrically conducting bridge (27), and

said bridge (27) is at least partly interrupted through the application of a voltage across the first memory element (30).